

A MODEL OF THE POLITICAL ECONOMY OF  
AGRICULTURAL CREDIT: THE CASE OF BOLIVIA

by

*Jerry R. Ladman*

and

*Ronald L. Tinnermeier\**

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\* *Professor of Economics and Director of the Center for Latin American Studies, Arizona State University and Professor of Economics, Colorado State University, respectively. Ladman was a visiting professor at Ohio State University when most of this paper was written.*

## A MODEL OF THE POLITICAL ECONOMY OF AGRICULTURAL CREDIT: THE CASE OF BOLIVIA\*

### Introduction

Agricultural credit has been a cornerstone of most agricultural development programs in less-developed countries (LDCs). Domestic governments and donors of foreign aid alike have allocated significant sums for agricultural credit programs (Adams).

This paper argues that, although such programs are said to be economically oriented, they are very susceptible to being used by LDC governments as political tools. Thus, a political economy of agricultural credit emerges in which credit is allocated to satisfy political objectives.

There are five major reasons why the political economy of agricultural credit has become important. First, governments typically control the formal market supply of agricultural credit.<sup>1</sup> Much credit flows to agriculture through government agricultural development banks. Further, much of the formal credit coming from the private sector only comes about as a result of government policies which force lending to agriculture. Therefore, governments have the ability to strongly influence the distribution and allocation of credit. (If a high proportion of total credit is from the informal market, this influence will be reduced.) Second, concessionary interest rate policy, which is almost ubiquitous in LDC agricultural credit programs, provides for an attractive income transfer to borrowers. Third, when governments permit long-term delinquency, a common condition in LDCs, the borrower receives a temporary income transfer for the period of the delinquency. If he never repays, it becomes a permanent transfer. Fourth, when inflation is present, the magnitude of the concessionary and

delinquency transfers is magnified. Fifth, the advantages of obtaining these transfers are sufficiently attractive that they can be used by governments to curry the favor of borrowers and, conversely, by borrowers to pledge support to government.

Credit programs are particularly alluring for political purposes. First, they are easy to establish and administer. Second, they are very legitimate for economic objectives. Third, because monies are fungible and because of the hidden transfers, the true uses of such funds are difficult to identify. Thus, credit lends itself to being used for political purposes under the guise of economic development.

The extent to which economic decisions are influenced by political factors, or vice versa, is difficult to ascertain in practice. It is becoming increasingly clear, however, that not only is there the potential for political forces to impact heavily on agricultural credit programs, but also they probably play a more important role than has been previously recognized.<sup>2</sup>

This paper first describes the evolution of the institutional and policy structure of credit programs in LDCs. The role of foreign aid is emphasized. Second, a model of the political economy of agricultural credit is specified. Third, the model is applied to Bolivia, an archetype of underdevelopment where political factors often predominate and where there have been massive infusions of foreign aid for agricultural credit. Fourth, conclusions and policy implications are set forth.

#### The Evolution of Institutional and Policy Structures

Commercial financial institutions in LDCs have shunned lending to agriculture because of the high costs and risks embodied in these loans (Donald, pp. 27-35). Thus, pressures were placed on governments to provide alternative sources of financing. The solution has been to establish government agricul-

tural banks. Many LDC countries had established these banks prior to the emphasis on development in the 1950s. Typically, however, they were utilized to finance the already established and oftentimes wealthy farmers rather than small farmers. In the development decades of the 1950s and 1960s, many other countries established government agricultural banks in response to economic and political pressures for development. From an economic view, the passivity of the agricultural sector dictated a supply-leading financial approach.<sup>3</sup> From a political view, agricultural development, or at least the opportunity for development in various product lines or regions, was stabilizing.

When it became obvious that government institutions could not meet the needs of financing agriculture, means were sought to force the private sector to lend to agriculture. Central bank rediscount mechanisms, loan guarantees and loan portfolio requirements were common policies.

Almost without exception all of these agricultural credit programs incorporated a feature transferred from the United States Farmers Home Administration credit model--the concessionary interest rate; because, from an economic standpoint, it provided elements deemed very appropriate to the conditions of LDCs.<sup>4</sup> The concessionary transfer (the income transfer due to the concession) was justified to encourage the use of more capital-intensive inputs, and to compensate the farmer for: the inherent risks in agriculture; the paucity of cost-reducing infrastructure in the countryside; the past injustices done to farmers by moneylenders; and low product prices imposed by the government to protect the interests of urban wage earners.<sup>5</sup> Little attention has heretofore been directed, however, at the tremendous political leverage that the concessionary transfer offers.

The foreign influence in formulating and abetting the whole system and policy structure is apparent. First, most institutions and policies were

adopted in LDCs based upon the received doctrine from the developed countries (DCs), often with the advice of foreign advisors. Second, bilateral and multilateral donors of foreign aid have extended many loans for agricultural credit programs which have been fed into this institutional structure and policy framework.

### A Model of the Political Economy of Agricultural Credit

It is clear that present structures easily permit government control over the distribution and allocation of credit for both economic and political reasons. Now it remains to develop a model of the political economy of agricultural credit.

(Figure 1)

Figure 1 presents a countrywide demand curve,  $DD'$ , for agricultural credit.<sup>6</sup> Assume that the prevailing annual nominal rate of interest for non-agricultural loans is  $r$ . If farmers were to borrow money at this rate, they would want to utilize  $OC_1$  credit. Suppose, however, that the government subsidized agriculture by means of a concessionary interest rate policy for agricultural loans; a concession of three to ten points is common. If the concessionary rate were  $r'$ , then farmers would want to borrow an additional amount,  $C_2 - C_1$  for agricultural purposes. In the process they would receive a subsidy or income transfer (the concessionary transfer) of  $r'rab$ , if nonprice credit rationing were not employed.

There is an additional effect, however, which adds to the demand for agricultural credit. Credit is fungible and, although ostensibly borrowed for agricultural purposes, it can be diverted to nonagricultural activities. The result is agricultural illusion--a situation where some agricultural loans have the appearance of going to that sector but, in fact, are directed to non-

agricultural purposes such as consumption or investment. This would be expected among farmers who have multiple occupations and/or knowledge about other investment opportunities. The effect of agricultural illusion is to cause an additional demand for agricultural credit. The addition of this demand to  $DD'$  causes a kink in the new demand schedule at  $r$  to form a demand for "agricultural" credit of  $DD''$ . Thus, at the concessionary rate  $r'$ , the concessionary transfer becomes  $r'rac$ . Agricultural illusion only occurs at rates below  $r$  when there is motive to ostensibly borrow for agriculture but to transfer funds to other sectors if the cost of agricultural credit is subsidized at  $rr'$ .

Delinquency provides another possibility for an income transfer. A "delinquency transfer" may be temporary when farmers do not repay their loans on time or permanent when they never repay the loan. In the case of the temporary transfer the farmer gains from improved income or reduced costs resulting from control over cash flow. The permanent transfer is equivalent to the real value of the loan principal plus real value of interest charges less any real amount repaid on loan and interest. In terms of Figure 1, the amount of the permanent delinquency transfer would be the  $OC_3$  loan principal plus  $Or'cC_3$  interest, assuming a concessionary interest rate of  $r'$ , agricultural illusion and no repayment.

When inflation is present, a situation common to LDCs, the real rate of interest may be quite low or even negative. The effect is to enlarge the concessionary transfer and the temporary delinquency transfer (because of the lower real value of the loan when repaid). When inflation is anticipated by farmers the amount borrowed will increase in accordance with the demand schedule and will further enlarge both transfers. For example, assume a nominal concessionary rate of  $r'$  and farmers anticipated the real rate of  $r''$  due to inflation. Borrowers would then gain an additional concessionary transfer due

to inflation of r'r'ce and the potential for a permanent delinquency transfer of  $OC_4$  loan principal and  $Or''eC_4$  interest. The higher the inflation, the greater will be these transfers. In the case of temporary transfers, the longer the delinquency, the greater the transfer.

Clearly the concessionary and delinquency transfers themselves and the additions to these transfers resulting from inflation are to be coveted. Therefore, a government with its control over agricultural credit institutions can use these potential transfers to induce certain types of economic activity and/or to reward certain behavior among borrowers. Moreover, borrowers, in their competition for access to and their share of the transfer, will undoubtedly be willing to bargain with the government. Thus, there is an interplay between government and farmers in which political factors may take on considerable importance. In the case of authoritarian governments, such an interplay takes on increasing importance the weaker the government, since the government may find it more necessary to garner and maintain clientalistic support.

In fact, heavy delinquency rates may be symptomatic of the degree that political factors have entered into the loan. When the government does not take the legally available measures to bring pressure on the borrower to repay, this indicates an unwillingness to bear the administrative costs or political consequences of such action.

The sheer existence of the concessionary transfer and the possibility of an easy delinquency transfer creates a potential for corruption. Government officials could easily appropriate part of the transfer for themselves by directly or indirectly lending to themselves, or by receiving kickbacks from borrowers.

## Consequences

The consequences of using credit as a political instrument will vary depending on the specific situation in any country. It is possible, however, to draw generalizations about expected consequences in four areas:

(a) resource allocation; (b) income distribution, (c) institution financial viability, and (d) economic development.

Apart from political considerations the concessionary interest rate policy leads to a non-optimal social allocation of credit, other resources, and the production of goods in society unless there is an effective means of non-price rationing. Experience demonstrates, however, that non-price rationing schemes are difficult to enforce. The schemes are even more unworkable when political factors intervene. If inflation is present, the additional transfer due to inflation enhances the attractiveness of using credit for political objectives. If this occurs the resource allocation consequences are exacerbated. For example, it may encourage speculative investments and inventory stockpiling as well as agricultural illusion. Access to the concessionary transfer (Gonzalez-Vega, 1977) and the delinquency transfer will affect income distribution. Those who receive the transfers as a result of borrowing or corruption will gain at the expense of others. Inflationary conditions will increase the benefits of those who receive these transfers. The net result, under any combination of the several transfers, is that the borrower gains income at the expense of the taxpayer or saver whose money is utilized to provide credit. Moreover, the borrower will gain income relative to those who have no credit or who borrow at true market rates of interest. Where the source is foreign, these effects have international implications as well.

Concessionary interest rates lead to lower interest revenues for the lending institution. This, in combination with the well-recognized high costs



of administering agricultural credit programs, will seriously jeopardize a credit institution's financial viability. Further, political lending will lead to erosion of loan funds due to extensive delinquency inherent in such loans. The result is, that to cover costs and maintain or increase its loanable funds, the institution must be subsidized by government or obtain foreign loans or assistance. Without such supports, the institution's financial resources would soon be gone.

Finally, although it is well beyond the scope of this paper to discuss them in detail, it should be noted that there will be additional indirect impacts of credit allocation on balance of payments, government expenditures and revenues, price stability, rural-urban migration, sectorial development, and economic development in general.

#### The Role of Foreign Donors

Foreign economic assistance programs contribute to the use of credit as a political instrument in two ways. First, they have promulgated the policy of concessionary interest rates with the direct effect of creating concessionary transfers. Second, they have provided considerable economic assistance for agricultural credit programs.

As a consequence, they have been an indirect contributor to the use of credit for political purposes leading to the transfers. This is particularly true for loans which have been made for general agricultural sector development where credit typically flows to the larger and more sophisticated farmers and agricultural illusion takes on large dimensions. However, even in cases where foreign aid funds are earmarked for small farmers, the additional funds simply increase the size of the total portfolio and may permit some substitution for other funds previously directed to small farmers, thus releasing them for other purposes, including political.

### Can't Interest Rates be Raised and Default Reduced?

The obvious economic solution to prevent all these distortions is to raise interest rates and decrease default. There is increasing evidence that the conventional wisdom of using concessionary rates is wrong. Many policy makers in foreign assistance institutions and governments are now advocating this change on economic grounds. The private and government banking communities have long recognized the advantages of higher rates as a means to increase revenues and render their institutions more financially viable.

Why, then, have policies of higher rates not been put into effect? Furthermore, why don't many lenders use their legal powers to limit default? The suggested answer is that the political cost is too great. First, governments would lose attractive elements available to them to bargain for political support. Second, farmers accustomed to the concessionary and/or default transfers would stand to lose substantially. In particular, the impact would fall on the larger farmers who practice agricultural illusion with access to alternative investment-consumption activities. Third, where corruption occurs, government officials would lose their access to these sources of income.

### The Case of Bolivia

The model is applied to Bolivia during 1971-1978, the period of the government of General Hugo Banzer.<sup>7</sup>

### The Political Setting

By 1964, the conservative middle class had co-opted what had started as a populist revolution in 1952 (Malloy). Private enterprise had begun to flourish in the department of Santa Cruz under the driving forces of newly developed petroleum and agricultural industries. The economic elite of this department came to carry considerable importance in national politics. Between 1969 and 1971, two leftward leaning governments attempted to bring the

revolution back to its populist beginnings much to the concern of this group. Thus in August 1971, the conservative military and private business interests in Santa Cruz rose under a coup led by Colonel Hugo Banzer, to overthrow the leftist government of Juan José Torres. In a rare occurrence for Bolivia, Banzer remained in power seven years until July 1978 when he was overthrown by a coup. As Mitchell points out, Banzer's success was marked by a coalition of the military and private business interests, particularly those of Santa Cruz, and the repression of workers, peasants and political opposition. It is widely recognized that he courted the Santa Cruz elite.

This study shows how agricultural credit was employed to cater to this group, to whom he owed his rise to power as well as his continuance in office, by means of loans through the government-owned Bolivian Agricultural Bank (BAB). The analysis is limited to two crops, cotton and soybeans, which are basically grown by this elite in Santa Cruz and appear to have been most subject to political use.

#### The Political Economy of Agricultural Credit

The regional distribution of agricultural credit since 1971 was highly skewed to the tropical lowlands in the department of Santa Cruz. Between 1973 and 1978, 68 percent of commercial bank loans went to that department.<sup>8</sup> Between 1971 and 1978, 64 percent of the volume but only 23 percent of the number of BAB loans went to Santa Cruz.<sup>9</sup> In contrast, according to the 1976 General Population Census, only 12.6 percent of the rural population lived in that department. Further, for the period 1964-1971, only 43 percent of BAB credit from regular credit lines went to Santa Cruz.

Several interdependent factors explain the highly disproportionate share of flows of agricultural credit going to Santa Cruz in the Banzer period. First, the petroleum and agricultural boom in the region was viewed as the

leading edge of the Bolivian economy. Rapid gains in food import substitutes and agricultural exports were expected from the commercial farms whereas these possibilities were not foreseen for the small-scale traditional farming areas in the highlands. However, recent evidence by Clark suggests that this may not have been the case. He argues that the economic advantages of a development strategy emphasizing small-farmer production in the highlands would have important benefits for Bolivian income distribution, employment and lower investment requirements without seriously harming balance of payments or government fiscal revenues compared to the resource export strategy followed to date.

Second, geopolitics was another factor. Bolivia has historically feared encroachment by Brazil. Fears were heightened by the discovery of petroleum reserves in Santa Cruz and agricultural development was viewed as creating a buffer against such an invasion.

Whereas both of these factors were important in explaining the disproportionate credit flows, we suggest that domestic political factors were also important in the credit allocation. As noted previously, an important part of the Banzer coalition was the commercial farming interests in Santa Cruz. These were the persons to whom Banzer was obliged for his sudden rise to power and who posed a threat to the coalition were they to withdraw their support. The model provides the framework for examining the strength of the political aspects of credit. The institutional and policy structure is examined to show government's control over credit. This is followed by evidence on the concentration of credit in the hands of the Santa Cruz commercial farmers and the sizeable concessionary and delinquency transfers.

### Institutional and Policy Structure

Over the 1971-1978 period, 59 percent of the banking credit in Bolivia came from the Bolivian Agricultural Bank (BAB). In addition the government-owned State Bank, a commercial bank, loaned approximately another 20 percent. The system was very amenable to government control. Credit was employed as the major agricultural sector policy instrument to "lead" agricultural production by means of a number of special credit programs established by the government and donors of foreign aid. Key features of credit policy were concessionary interest rates and central bank rediscounts to the banking system from special credit lines for agriculture.

Foreign assistance played a major role by providing a steady inflow of funds which freed government funds for lending to some major enterprises such as cotton (little foreign assistance was used for this crop), as well as for liquidity which the institutions needed in view of soaring and heavy delinquency. From 1967 to 1978, there were \$146 million (all figures in this paper are reported in U.S. dollars) in foreign assistance committed for agricultural credit. A conservative estimate is that at least 45 percent of bank credit (BAB and commercial banks) came from this source.

### Concentration of Credit

Over the 1971-1978 period BAB loaned \$80.9 million in Santa Cruz in 3,348 loans. Of this amount \$45.9 million went to cotton (56 and 36 percent of Santa Cruz and national totals respectively) in a total of 726 loans (22 and 5 percent of Santa Cruz and national totals respectively). A much smaller amount, \$4.1 million, was directed to 118 farmers for soybeans. The average size loan for cotton and soybeans was \$63,169 and \$34,525 respectively, much larger than the \$5,287 national average. Credit for the two crops, which represented 41 percent of the national BAB loan portfolio, only went to a few

farmers, 6 percent of BAB loans. These loans were made basically to the larger farmers of Santa Cruz, many of whom belonged to that region's elite and/or to powerful regional interest groups such as ADEPA (The Cotton Growers Association).

#### Income Transfers

As shown in Table I, the recipients of BAB cotton and soybean loans received total income transfers of at least \$44.5 million over the period, an amount only slightly less than the \$49.9 million of principal originally loaned. The average transfers for cotton and soybean loans were \$55 and \$39 thousand respectively.

(Table I)

As shown in Table II the concessionary transfer results from interest rate concessions of 12 to 15 percent for BAB clients relative to the rates charged by commercial banks for commercial loans. Since the commercial rates are maximum rates established by the Central Bank, they are likely to be less than the true opportunity cost of credit. To the extent this holds true, the concessionary transfer is understated.

(Table II)

The effect of inflation is to reduce the real interest rate and therefore to provide an additional transfer to the borrower. With the exception of 1973 and 1974, inflation in Bolivia was mild, yet the income transfer associated with inflation was very substantial, estimated at \$8.2 million.

From 1971 to 1978, BAB delinquency went from bad to worse. At the end of 1971, 15 percent of the loan portfolio was overdue; at the end of 1978 it was 43 percent after reaching a high of 47 percent in 1977. Had many loans not been refinanced or extended the situation would have been much worse. During 1978, 776 loans were extended. Furthermore, several BAB loans have been extended many times. The delinquency is concentrated in Santa Cruz; in

1978, 68.8 percent of the total BAB delinquency was in that department. In Santa Cruz 48 and 52 percent of loan numbers and volume were past due compared to 27 and 43 percent nationally. Both cotton and soybeans contributed to the high proportion of loan volume delinquency.

At the end of 1978, the delinquency transfer associated with cotton and soybeans was \$30.1 million. This is the virtual equivalent of a permanent income transfer because prior to June 1977 the government would not permit the BAB authorities to pressure farmers for repayment. Also, to keep some private commercial banks from pressuring farmers, the government bought these banks' delinquent portfolios and transferred them to BAB. In June 1977, Banzer issued a Supreme Decree which extended all BAB and State Bank cotton and soybean loans for periods of eight to twelve years. If the loans are paid back as scheduled, the borrowers will pay back virtually nothing in terms of real value due to the depreciating effects of inflation.

The large BAB income transfers for borrowers for the two crops in Santa Cruz cannot be entirely attributed to political factors. Poor client selection, bad weather, insects and marketing are other reasons. But even in cases of the latter, political intervention led to sizeable transfers. For example, in 1973, BAB and commercial banks financed large quantities of cotton and ADEPA made forward contracts to sell cotton on the world market. When the world price exceeded the forward price ADEPA refused to sell. The government supported them and established a minimum price. The world buyers refused to pay this price and much cotton remained unsold while delinquency soared.

The case of BAB is illustrative of what also happened in the State Bank. Unfortunately inadequate data do not permit careful measurement of transfers for credit from that institution. They are, however, sizeable. This institution also began to lend heavily for cotton and soybeans in Santa Cruz after

1972. By 1977, they had discontinued lending to agriculture because of the heavy delinquency. In 1978, they had \$22.4 million in 232 past due loans most of which were for cotton and soybeans.<sup>10</sup> Clearly, income transfers associated with these loans were also very substantial.

### Consequences

The evidence of large income transfers for a small group of commercial farmers in Santa Cruz strongly supports the widely held view in Bolivia that agricultural credit was used extensively for political purposes by the Banzer administration. The model provides a framework for analyzing the role of credit in this context and for developing rough measures of the magnitudes of the income transfers.

The effect of credit being used as a political instrument to benefit the Santa Cruz commercial farming elite undoubtedly contributed to political stability during the Banzer reign. Yet the abuses did not represent the will of the people. When government repression was lifted with the 1978 elections, the general populace and especially the rural masses expressed their displeasure with this and other Banzer practices when they did not provide sufficient votes for Banzer's hand-picked successor to elect him to office in spite of strong government efforts to ensure his election.

The economic consequences of credit as a political instrument undoubtedly contributed to this discontent. Access to credit and the associated income transfers by the elite gave them a larger share of national income. Their ability to practice agricultural illusion further enhanced their income and worsened regional and personal income distribution. The highland peasants gained little, and if it had not been for foreign aid for small farmer credit, which began in 1975, it is doubtful that this large mass of farmers would have received much credit at all.



The concessionary interest rate directly leads to agricultural illusion and a misallocation of resources. The process, however, is exacerbated by permissive delinquency when borrowers realize that they will not have to repay on time. This permits funds to be invested in longer-term and/or speculative investments as well as consumptive items. It is well known that, because of their multiple occupations and wealth, the Santa Cruz elite is active in these types of spending.

The long-run viability of financial institutions was seriously harmed. After 1976, the State Bank withdrew from agricultural lending because of the high costs associated with its heavy delinquency. In March 1979, BAB had to be rescued from bankruptcy by the government when it issued \$41.5 million in bonds (El Diario) which permitted BAB to meet its financial obligations. The need for such action further eroded public opinion of these institutions and contributed to a loss of confidence in the government.

### Conclusions

It should not be surprising that government controlled credit institutions and policy can be used for political objectives although they are cast in the context of economics. Credit as a political instrument is very attractive to a government because it is rapidly implementable and has the appearance of going for worthwhile economic objectives but in reality offers opportunities for considerable benefits to borrowers by means of income transfers and gains from fungibility. Moreover, because the true benefits are hard to identify, they are less subject to the scrutiny of the opposition and the general public.

The usefulness of the present study is to provide a theoretical framework to show the usefulness of agricultural credit as a political-economic instrument particularly where concessionary interest rates and permissive default are employed. The Bolivian case clearly illustrates the political economy of

credit as it was applied by Banzer in 1971 to 1978. It also shows the unintended role of foreign assistance in abetting the use of credit in a political context.

The Bolivian case is not unique. It is likely that political forces figure strongly in credit allocation decisions in most nations. While they may contribute to political stability, they are subject to abuse and have undesirable consequences for resource allocation, income distribution and financial institution viability. The degree to which credit can be used as a political instrument would be substantially reduced if concessionary interest rates were eliminated, a tougher stance on default were taken and inflation reduced.

The voluntary implementation of the required interest rate and default policies will be difficult to attain given the high costs to governments in the loss of a political instrument. Therefore pressures will have to be exerted by foreign donors in an appeal to improve resource allocation, income distribution and financial institution viability.

### Footnotes

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<sup>1</sup>It is important to distinguish between the formal market sources (those legal entities which are established for purposes of providing credit and, perhaps, other financial intermediation services) and informal market sources (those who provide credit but do not have such formal status, such as money-lenders, friends, relatives, and merchants). In LDCs the size of the informal market is unknown but in most countries it is considered quite important in terms of numbers of farmers reached.

<sup>2</sup>This has been recognized by J. D. Von Pischke in a more specialized sense than is in this paper.

<sup>3</sup>The supply-leading approach in contrast to the demand-leading approach is set forth in Hugh T. Patrick.

<sup>4</sup>The Farm Security Administration, later renamed the Farmers Home Administration (FHA), was established in the U.S. in the Great Depression to provide subsidized and supervised credit to low-income farmers who offered strong potential for economic advancement but did not have access to credit from normal formal market sources. Because of the apparent similarity of conditions in LDCs, it was natural that the FHA model should have been transferred to those countries. This tendency was reinforced by the fact that many FHA officials were used as advisors to LDCs in establishing credit programs. Subsequent experience in LDCs has shown that the supervision function was so expensive

or ineffective that most institutions have considerably diminished this aspect of the model, but the concessionary interest rate subsidy has remained for reasons set forth in this paper.

<sup>5</sup>For a good discussion of the reasons, see Donald.

<sup>6</sup>The pioneering work on the concepts formalized in this model was done by Adams and Gonzalez-Vega (1976).

<sup>7</sup>For a good discussion of the political developments in Bolivia over this period see Mitchell as well as Malloy and Borzutsky.

<sup>8</sup>Private communication from Banco Central de Bolivia.

<sup>9</sup>Data from Departamento de Planificación, Unidad Estadística, from Banco Agrícola de Bolivia. All data reported in the remainder of this paper come from this source unless otherwise indicated.

<sup>10</sup>Private communication from the Banco del Estado.

TABLE I

Concessionary and Delinquency Transfers Associated With  
Cotton and Soybean Loans of Bolivian Agricultural Bank, 1971-1978  
(Thousands of U.S. dollars)

	<u>Cotton</u>	<u>Soybeans</u>
Loan Volume	45,861	4,074
Number of Loans	726	118
Average Loan Size	63	35
Percent Past Due (Dec. 31, 1978)	51	69
<hr/>		
Delinquency Transfer		
Interest and Commissions	3,342	418
Principal	23,491	2,823
Concessionary Transfer	5,680	519
Transfers due to Inflation	<u>7,399</u>	<u>829</u>
Total Transfer	39,912	4,589
Average Transfer Per Loan	55	39

Source: Authors' calculations based on Bolivian Agricultural Bank Data.

TABLE II  
Inflation and Real Interest Rates for Loans  
From Bolivian Agricultural Bank  
(percent)

	Year							
	1971	1972	1973	1974	1975	1976	1977	1978
Inflation rate <sup>a</sup>	3.7	6.5	31.5	62.8	7.9	4.5	8.1	15.0 <sup>b</sup>
Commercial Bank interest rate	27	25	25	25	25	25	25	25
BAB Nominal interest rate	12	10	10	13	13	13	13	13
BAB Concession points	15	15	15	12	12	12	12	12
BAB Real interest rate	8.0	3.3	-16.3	-30.6	4.7	8.1	4.5	-1.7

Sources: Banco Central de Bolivia, Boletín estadístico, No. 230, Junio, 1978, p. 59 and private communication Banco Central de Bolivia, Departamento de Estudios Económicos.

<sup>a</sup>Based on consumer price index for La Paz.

<sup>b</sup>Annual rate for first six months of year.

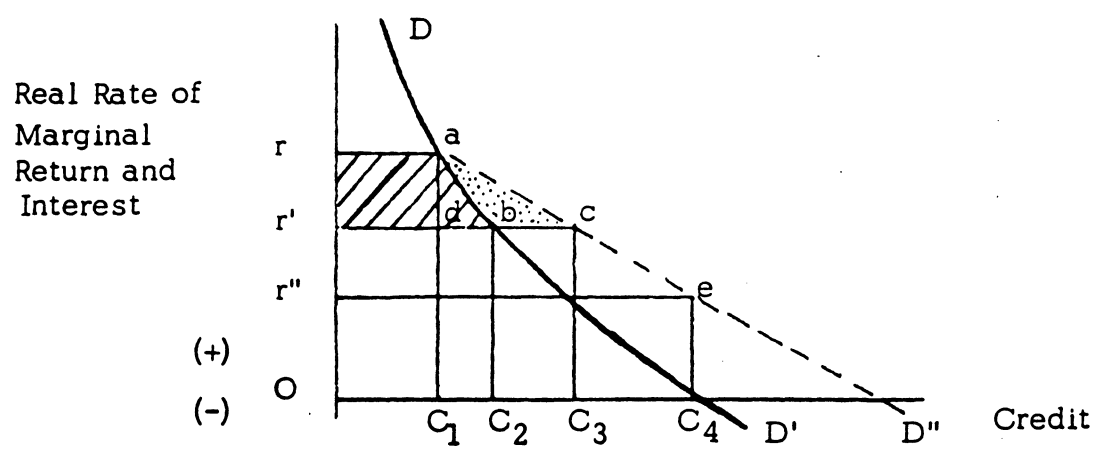


FIGURE 1. Kinked Demand for Agricultural Credit

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